WHAT IS CLAIMED IS:

1. A method of making a material alloy for an iron-based rare earth magnet, the method comprising the steps of:

preparing a melt of an iron-based rare earth material alloy, the material alloy having a composition represented by the general formula: $(Fe_{1-m}T_m)_{100-x-y-z-n}(B_{1-p}C_p)_xR_yTi_zM_n$, where T is at least one element selected from the group consisting of Co and Ni; R is at least one element selected from the group consisting of Y (yttrium) and the rare earth elements; and M is at least one element selected from the group consisting of Al, Si, V, Cr, Mn, Cu, Zn, Ga, Zr, Nb, Mo, Ag, Hf, Ta, W, Pt, Au and Pb, the mole fractions x, y, z, m, n and p satisfying the inequalities of:

10 at% $< x \leq$ 25 at%;

6 at% $\leq y <$ 10 at%;

0.5 at% $\leq z \leq$ 12 at%;

$0 \leq m \leq$ 0.5;

0 at% $\leq n \leq$ 10 at%; and

$0 \leq p \leq$ 0.25, respectively;

feeding the melt of the material alloy onto a guide having a guide surface that defines an angle of about 1 degree to about 80 degrees with respect to a horizontal plane so as to move the melt onto a region where the melt comes into contact with a chill roller; and

rapidly cooling the melt using the chill roller to make a rapidly solidified alloy comprising an $R_2Fe_{14}B$ phase.

2. The method of claim 1, wherein the cooling step comprises the step of adjusting a flow width of the melt to a predetermined size in an axial direction of the chill

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roller using the guide.

3. The method of claim 1, wherein the rapidly solidified alloy is made within a reduced-pressure atmosphere.

4. The method of claim 3, further comprising the step of controlling the pressure of the atmosphere so that the pressure of the atmosphere is between about 0.13 kPa and about 100 kPa.

5. The method of claim 1, wherein the rapidly solidified alloy made in the cooling step comprises the $R_2Fe_{14}B$ phase at about 60 volume percent or more.

6. The method of claim 5, wherein the cooling step includes the steps of controlling a surface velocity of the chill roller so that the surface velocity is between about 5 m/sec and about 26 m/sec, and controlling a feeding rate per unit width of the melt so that the feeding rate per unit width is about 3 kg/min/cm or less.

7. The method of claim 1, further comprising the step of forming a structure in which three or more crystalline phases, including at least the $R_2Fe_{14}B$ phase and α -Fe and ferromagnetic iron-based boride phases, are present, an average crystal grain size of the $R_2Fe_{14}B$ phase is between about 20 nm and about 200 nm, and an average crystal grain size of the α -Fe and boride phases is between about 1 nm and about 50 nm.

8. The method of claim 1, wherein an iron-based boride phase with ferro-

magnetic properties exists around a grain boundary or sub-boundary of the $R_2Fe_{14}B$ phase.

9. The method of claim 7, further comprising the step of subjecting the rapidly solidified alloy to a heat treatment to form the structure in which three or more crystalline phases are present.

10. The method of claim 9, wherein the step of subjecting the rapidly solidified alloy to a heat treatment comprises the step of maintaining the rapidly solidified alloy at a temperature of between about 550 °C and about 850 °C for approximately 30 seconds or more.

11. The method of claim 10, further comprising the step of pulverizing the rapidly solidified alloy before subjecting the rapidly solidified alloy to the heat treatment.

12. The method of claim 7, wherein the iron-based boride phase comprises at least one of Fe_3B and $Fe_{23}B_6$.

13. The method of claim 1, wherein the element M always includes Nb.

14. The method of claim 13, wherein the melt of the material alloy including Nb has a liquidus temperature that is lower by about 10 °C or more than that of another iron-based rare earth magnet material alloy that has substantially the same composition as the material alloy including Nb but that includes substantially no Nb.

15. The method of claim 14, wherein the material alloy includes Nb at between about 0.1 at% and about 3 at%.

16. The method of claim 1, wherein an atomic ratio p of C in the general formula satisfies the inequality of $0.01 \leqq p < 0.25$.

17. The method of claim 14, wherein before the melt is fed onto the guide, the melt has a kinematic viscosity of about 5×10^{-6} m²/sec or less.

18. The method of claim 16, wherein a compound phase, which precipitates first while the melt is being rapidly cooled and solidified, has a solidification temperature that is decreased by about 5 °C or more compared to a melt of another material alloy with an atomic ratio p of approximately 0.

19. The method of claim 18, wherein in the cooling step, the compound phase that precipitates first while the melt is being rapidly cooled and solidified is a titanium boride compound.

20. The method of claim 1, wherein the cooling step is performed by rotating the chill roller, which has a centerline roughness Ra of about 20 μ m or less on its surface, at a surface velocity of about 10 m/sec or more.

21. The method of claim 1, wherein the cooling step includes the step of controlling a melt flow quenching rate, at which each flow of the melt is rapidly cooled and solidified by the chill roller, such that the melt flow quenching rate is about 0.7

kg/min or more but less than about 4 kg/min.

22. The method of claim 1, wherein the cooling step includes the step of controlling the width of each flow of the melt by the guide so that the width is about 5 mm or more but less than about 20 mm.

23. The method of claim 1, further comprising the step of controlling a kinematic viscosity of the melt such that the kinematic viscosity is about 5×10^{-6} m^2/sec or less.

24. The method of claim 1, further comprising the step of maintaining a surface temperature of the guide at about 300 °C or more so that the melt has a kinematic viscosity of no greater than about 5×10^{-6} m^2/sec.

25. The method of claim 1, wherein the rapidly solidified alloy has a thickness of between about 50 μ m and about 200 μ m.

26. The method of claim 1, wherein the guide means is made of a material that includes Al_2O_3 at about 80 volume percent or more.

27. The method of claim 1, wherein the chill roller comprises a base made of a material with a thermal conductivity of about 50 W/m/K or more.

28. The method of claim 27, wherein the base of the chill roller is made of one of carbon steel, tungsten, iron, copper, molybdenum, beryllium and a copper al-

loy.

29. The method of claim 27, wherein the base of the chill roller includes a plating made of one of chromium, nickel and a combination of chromium and nickel disposed on a surface thereof.

30. A method for producing an iron-based permanent magnet, the method comprising the steps of:

preparing the material alloy for the iron-based rare earth magnet according to the method of claim 1; and

subjecting the material alloy for the iron-based rare earth magnet to a heat treatment.

31. A method for producing a bonded magnet, the method comprising the steps of:

preparing a powder of the material alloy for the iron-based rare earth magnet according to the method of claim 1 or a powder of the iron-based permanent magnet according to the method of claim 30; and

processing the powder into the bonded magnet.

32. A rapidly solidified alloy having a composition represented by the general formula: $(Fe_{1-m}T_m)_{100-x-y-z-n}Q_xR_yTi_zM_n$, where T is at least one element selected from the group consisting of Co and Ni; Q is at least one element selected from the group consisting of B and C; R is a rare earth element; and M is at least one element selected from the group consisting of Al, Si, V, Cr, Mn, Cu, Zn, Ga, Zr, Nb, Mo, Hf,

Ta, W, Pt, Pb, Au and Ag, the mole fractions x, y, z, m and n satisfying the ine-

qualities of:

10 at% < x ≤ 20 at%;

6 at% ≤ y < 10 at%;

0.5 at% ≤ z ≤ 6 at%;

0 ≤ m ≤ 0.5; and

0 at% ≤ n ≤ 5 at%, respectively,

wherein the alloy has a thickness of between about 50 μm and about 200

μm, and

wherein in the alloy, a crystal structure is located on each of two surfaces

thereof that cross a thickness direction approximately at right angles.

33. The alloy of claim 32, wherein the crystal structure comprises:

a ferromagnetic boride phase with an average crystal grain size of between

about 1 nm and about 50 nm; and

an $R_2Fe_{14}B$ phase with an average crystal grain size of between about 20 nm

and about 200 nm.

34. The alloy of claim 32, wherein an amorphous portion is interposed be-

tween the crystal structures on the two surfaces.

35. The alloy of claim 34, wherein a thickness of the alloy is about 80 μm

or more.

36. A rapidly solidified alloy having a composition represented by the gen-

eral formula: $(Fe_{1-m}Tm)_{100-x-y-z-n}Q_xR_yTi_zM_n$, where T is at least one element selected from the group consisting of Co and Ni; Q is at least one element selected from the group consisting of B and C; R is a rare earth element; and M is at least one element selected from the group consisting of Al, Si, V, Cr, Mn, Cu, Zn, Ga, Zr, Nb, Mo, Hf, Ta, W, Pt, Pb, Au and Ag, the mole fractions x, y, z, m and n satisfying the inequalities of:

10 at% < x ≤ 20 at%;

6 at% ≤ y < 10 at%;

0.5 at% ≤ z ≤ 6 at%;

0 ≤ m ≤ 0.5; and

0 at% ≤ n ≤ 5 at%, respectively,

wherein the alloy has a thickness of between about 60 μ m and about 150 μ m, and

wherein the alloy has a recoil permeability of between about 1.1 and about 2.

37. A magnet powder having a composition represented by the general formula: $(Fe_{1-m}Tm)_{100-x-y-z-n}Q_xR_yTi_zM_n$, where T is at least one element selected from the group consisting of Co and Ni; Q is at least one element selected from the group consisting of B and C; R is a rare earth element; and M is at least one element selected from the group consisting of Al, Si, V, Cr, Mn, Cu, Zn, Ga, Zr, Nb, Mo, Hf, Ta, W, Pt, Pb, Au and Ag, the mole fractions x, y, z, m and n satisfying the inequalities of:

10 at% < x ≤ 20 at%;

6 at% ≤ y < 10 at%;

0.5 at% $\leq$ z $\leq$ 6 at%;

0 $\leq$ m $\leq$ 0.5; and

0 at% $\leq$ n $\leq$ 5 at%, respectively,

wherein the powder has a mean particle size of between about 60 μ m and about 110 μ m, and

wherein a ratio of a major-axis dimension of the powder to a minor-axis dimension thereof is between about 0.3 and about 1, and

wherein the powder has a coercivity H_{cJ} of about 600 kA/m or more.